

Vacuum tube era: 1946–60

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Los Alamos gets world's first electronic digital "computer," the ENIAC

The eminent Hungarian mathematician, John von Neumann, introduced Los Alamos to the world's first electronic digital "computer," the ENIAC (Electronic Numerical Integrator And Computer). The ENIAC was designed to make calculations for the Army's artillery firing tables to help gunners improve accuracy. But first, the ENIAC's was used to perform calculations to design and build the hydrogen bomb. A revolutionary capability, conceived by von Neumann, was the ENIAC's use of programs stored electronically on the machine, which became the basis for all modern computing systems.

In the 1950s digital-electronic computing technology became less expensive, more reliable, and more powerful and commercially produced computers started to gradually displace ENIAC's custom handmade descendants.

The Laboratory purchased its first commercial computer, an IBM 701, in 1953. This opened a new era in Los Alamos computing, dominated by commercial machines and custom computers developed jointly with corporate partners. Throughout much of the 1950s and 60s, the Laboratory managed to double computing capacity every two years. The most significant advancement during this era was the development of transistors.